

What Is Claimed Is:

1. A medical catheter system comprising:
 - a first catheter having
 - an entrance orifice,
 - an exit orifice,
 - a channel connecting the entrance orifice and the exit orifice, and
 - a wall surrounding the channel,
 - the hardness of the wall surrounding the channel decreasing in hardness then increasing in hardness and then decreasing in hardness again when considered from an initial reference point at the entrance orifice and traveling towards the exit orifice.
2. The medical catheter system of claim 1 further comprising:
 - a second catheter located within the first catheter, the first catheter sized to allow the second catheter to move within it.
3. The medical catheter system of claim 2 further comprising:
 - a third catheter located within the second catheter, the second catheter sized to allow the third catheter to move within it.

4. The medical catheter system of claim 2 wherein the second catheter has a plurality of flushing orifices sized to allow fluid to pass from an outside surface of the second catheter to an inside surface of the second catheter.
5. The medical catheter system of claim 2 wherein the second catheter has a bendable curve memory portion.
6. The medical catheter system of claim 5 wherein the bendable curve memory portion of the second catheter contains a cross-linking polymer activated by ultra-violet light.
7. The medical catheter system of claim 5 wherein the bendable curve memory portion of the second catheter contains an outer layer with a first hardness and an inner layer with a second hardness, the second hardness being harder than the first hardness.
8. The medical catheter system of claim 2 wherein the second catheter has an outer layer with a first hardness and an inner layer with a second hardness, the second hardness being harder than the first hardness.

9. A medical catheter system comprising:
 - a first catheter having
 - an entrance orifice,
 - an exit orifice, and
 - a first wall surrounding a channel linking the entrance orifice and the exit orifice, the first wall having a bendable curve memory portion.
10. The medical catheter system of claim 9 wherein the bendable curve memory portion is bent into a predetermined shape.
11. The medical catheter system of claim 9 wherein the first wall contains a reinforcing structure.
12. The medical catheter system of claim 9 wherein an inside surface of the first catheter includes a lubricious treatment.

13. The medical catheter system of claim 9 further comprising:
- a second catheter,
 - the second catheter surrounding the first catheter,
 - the second catheter having an entrance orifice, an exit orifice,
 - and a second wall surrounding a second channel linking the entrance orifice and exit orifice of the second catheter,
 - the hardness of the second wall surrounding the channel of the second catheter decreasing in hardness then increasing in hardness and then decreasing in hardness again when considered from an initial reference point at the entrance opening and then traveling towards the exit opening.
14. The medical catheter system of claim 9 wherein the first catheter has a flushing orifice passing through the first wall, the flushing orifice sized to allow flushing fluid to pass between an outside surface of the first wall and an inside surface of the first wall.
15. The medical catheter system of claim 9 wherein the first catheter has an outer layer with a first hardness and an inner layer with a second hardness, the second hardness being harder than the first hardness.

16. The medical catheter system of claim 15 wherein the first catheter further comprises a third layer, the third layer located within the inner layer, the third layer having a hardness that is harder than the second layer.
17. A medical catheter system comprising:
- an outer catheter;
 - an inner catheter,
 - the inner catheter sized to moveably fit within at least a portion of the outer catheter,
 - the second inner catheter having a flushing orifice passing through a first wall of the inner catheter,
 - the flushing orifice sized to allow flushing fluid to pass between an outside surface of the first wall and an inside surface of the first wall; and
 - a flushing line, the flushing line coupled to the flushing orifice.
18. The medical system of claim 17 wherein the outer catheter has an entrance orifice, an exit orifice, a channel connecting the entrance orifice and the exit orifice, and a second wall surrounding the channel, the hardness of the second wall surrounding the channel decreasing in hardness then increasing in hardness and then decreasing in hardness again when considered from an initial reference point at the entrance orifice and traveling towards the exit orifice.

19. The medical catheter system of claim 17 wherein the inner catheter has a bendable curve memory portion.
20. The medical catheter system of claim 19 wherein the bendable curve memory portion of the inner catheter contains a cross-linking polymer activated by ultra-violet light.
21. The medical catheter system of claim 17 wherein the inner catheter contains an outer layer with a first hardness and an inner layer with a second hardness, the second hardness being harder than the first hardness.
22. The medical catheter system of claim 21 wherein the inner catheter further comprises a third layer, the third layer located within the second layer, the third layer having a hardness that is harder than the second layer.
23. A medical catheter system comprising:
 - a first catheter having an inner layer and an outer layer,
 - the inner layer having a first hardness and the outer layer having a second hardness, the first hardness being harder than the second hardness.

24. The medical catheter system of claim 23 wherein the inner layer contains a reinforcing member.
25. The medical catheter system of claim 23 wherein the inner layer contains a lubricious treatment.
26. The medical catheter system of claim 23 further comprising:
a second catheter surrounding a portion of the first catheter,
the second catheter having
an entrance orifice, an exit orifice, a channel connecting the
entrance orifice and the exit orifice, and
a second wall surrounding the channel,
the hardness of the second wall surrounding the channel,
decreasing in hardness then increasing in hardness and then decreasing in
hardness again when considered from an initial reference point at the entrance
orifice of the second catheter and then traveling towards the exit orifice of the
second catheter.

27. The medical catheter system of claim 23 wherein the first catheter has a flushing orifice passing through the inner layer and the outer layer, the flushing orifice sized to allow flushing fluid to pass between an outside surface of the outer layer and an inside surface of the inner layer.